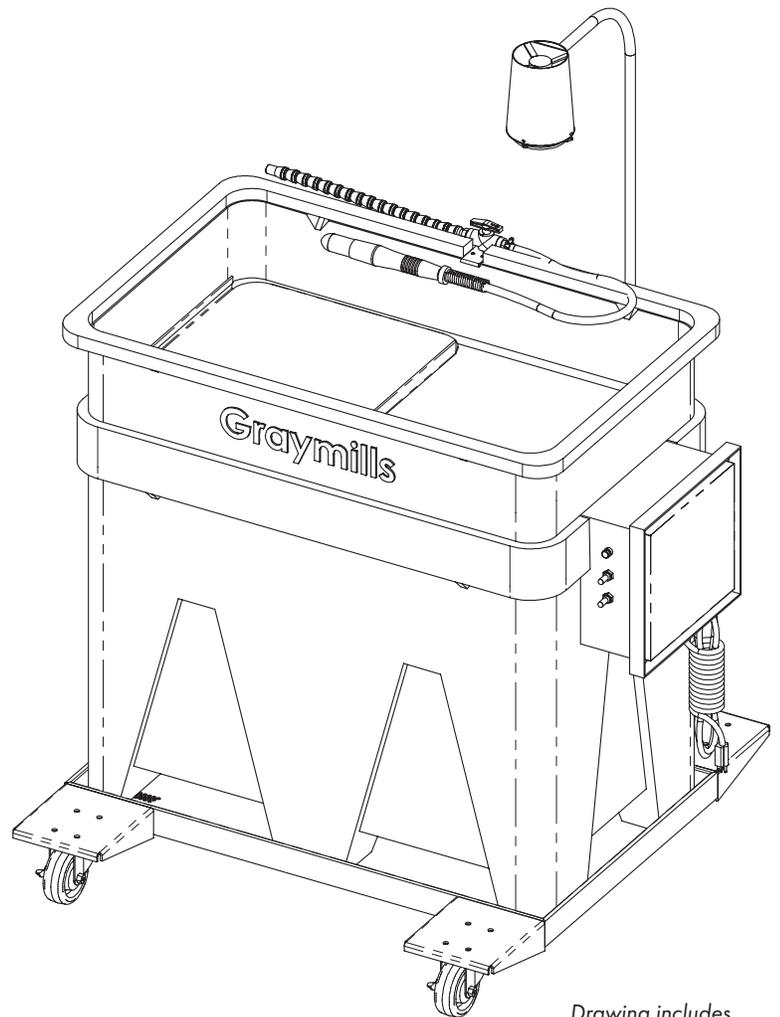


Operation and Maintenance Instructions

Model PH922 Heated Handi-Kleen[®] Thermoplastic Recirculating Parts Washer



*Drawing includes
optional light and caster cart*

Before using this machine for the first time, read and understand this instruction manual thoroughly. Observe all cautions and warnings in this manual and on the machine. Failure to use this equipment properly can result in mechanical damage or personal injury. If you have any questions regarding the safe and proper use of this machine, contact your Graymills distributor, area representative, or the factory directly.

SAFETY WARNINGS

You will find various types of safety information on the following pages and on the labels attached to Graymills equipment. The following Safety Statements explain their meaning:

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



CAUTION, used without the safety alert symbol, is used to address practices not related to personal injury.

CAUTION

GENERAL WARNINGS



Never work with equipment you feel may be unsafe. Contact your Supervisor immediately if you feel a piece of equipment is in an unsafe condition.

- Install machine in a well-ventilated area to avoid possible buildup of cleaning solution fumes.

CAUTION

- **Failure to keep proper liquid level will result in burning out the pump and heater coil, creating a potential fire hazard.** To help prevent this, unit is equipped with a low liquid level device which will shut off the pump and heater. If solution stops circulating and the green "POWER" light is no longer illuminated, immediately turn off and unplug unit. For instructions on filling the reservoir, please see the MACHINE INSTALLATION AND OPERATION section.
- **Turn power off if unit is to be idle for extended periods (overnight and weekends).**
- Maximum shelf capacity 150 pounds.
- Maximum fluid capacity 30 gallons

SAFETY INSTRUCTIONS

Chemical Hazards



- **Use only nonflammable, noncombustible, water-based alkaline cleaning compounds.**
- If you have any questions regarding the correct fluids to use in this unit, call Graymills at (773) 248-6825 and ask for Customer Service. See page 4 for Graymills recommendations.
- Do NOT contaminate cleaning compounds with any flammable materials (materials with less than 104°F flashpoint), such as gasoline, alcohol, etc. Drain parts to be cleaned of any flammable material before placing inside cleaning tank. Even small quantities can create a dangerous fire hazard.



- **Follow all directions, warnings, cautions and dangers for the cleaning fluid being used.**
- **Industrial cleaning solutions may be irritating to some individuals. Be certain to consult the SDS for the cleaning solution you are using before filling or using parts washer.**
- **Cleaning solutions may be irritating to skin and eyes. Always wear gloves, apron and safety glasses when using. If splashed in eyes, flush thoroughly with water and follow directions on cleaning solution SDS.**
- **Adequate ventilation should be provided when operating this unit.**
- **When making an initial batch of cleaning solution or when adding compound, follow cleaning solution's directions exactly.**
- **If cleaning solution is splashed on clothing, remove promptly and thoroughly wash any body areas which have been in contact with solution. DO NOT permit saturated clothing to remain in contact with skin. Consult cleaning solution's SDS instructions.**
- **Clean up fluid spills immediately. Cleaning solutions can create a slippery surface and could damage floor coverings or painted surfaces.**



- **Cleaning fluids should have a pH under 12.5.**
- **The unit has been factory set to maintain an approximate optimal temperature of 110°F (44°C). Do NOT attempt to change thermostat setting.**
- **This is a heated system. Always use caution when first putting hand under liquid stream to prevent injury from heated solution. If the liquid feels uncomfortably hot, discontinue use, unplug machine and call Graymills Customer Service.**
- **Graymills strongly recommends that federal, state and local authorities be consulted before proceeding with discarding and handling of used materials. Graymills Corporation accepts no responsibility for user's failure to comply with regulations.**

Electrical Hazards



- **Failure to permanently ground the unit and controls before connecting to electrical power can cause shock, burns or death.**
- **Unit must be properly grounded to prevent electric shock hazard. Connect only to three-prong outlet. Should cord become cracked, frayed or damaged in any way, it should be repaired/replaced immediately by a qualified electrician. Never use an extension cord. (See PARTS LIST, page 5)**
- **Install ground and wiring according to local and national electrical code requirements.**
- **Install a fused disconnect switch on all power legs near the unit.**
- **Disconnect and lockout electrical supply before installing or servicing unit.**
- **The full-load amperage draw for this machine is 12 amps.**

MACHINE INSTALLATION AND OPERATION

CAUTION

- Unit is shipped fully assembled. Optional caster cart and light will require some assembly; see separate Instruction Sheets if purchased.
- Place unit on a smooth, level surface in a well ventilated area.
- Read all warnings posted on machine.
- Inspect electrical control box, cord and plug for wear or damage.

CAUTION

Do not use machine or add fluid if any wear or damage is noticed until impaired components are repaired or replaced.

- Install filter cartridge:
 1. Unscrew filter cartridge bowl.
 2. Remove clear plastic packaging from filter cartridge.
 3. Install new filter cartridge in the cartridge bowl.
 4. Re-attach filter cartridge bowl to filter body.

CAUTION

Be sure electrical cord is unplugged, and cleaning solution and heater coil are cool before adding cleaning solution or performing any maintenance.

FILLING UNIT

CAUTION

If filling reservoir with hot water, be sure temperature does not exceed 110°F. Higher temperatures can cause burns to skin and will damage pump seals. Unit's thermostat has been factory set to prevent cleaning solution temperature from exceeding 110°F. Do not attempt to change thermostat setting.

- Remove stopper from drain.
- Add about 30 gallons of cleaning solution, filling to the base of the sink.
- Put center stopper back into drain opening.

OPERATING UNIT

- Plug power cord into properly grounded 115V, 15 amp circuit.
- Press **TEST** button on GFCI on power cord to ensure switch is operating properly. Press **RESET** button on GFCI to prepare unit for operation.
- Toggle the **POWER** switch to ON to begin operation.
- Toggle **RESET** switch located under the electrical box. If the unit has an adequate level of cleaning solution in the tank, the green "**READY**" light will illuminate.
- If cleaning solution is not up to the set temperature of 110°F and there is sufficient fluid in the tank, the heater will begin operating. If the solution does not warm, unplug machine and call factory.
- Place stainless steel shelf on mounting ridges inside tank.
- To operate the fluid pump, toggle "**PUMP**" switch on front of electrical box to the ON position.
- For fluid flow through the flexible hose turn the directional valve pointing to hose. For fluid through the flow-thru brush turn the directional valve pointing to brush. The center position will allow flow through both.
- Unit is equipped with a low liquid level device which will shut off the pump and heater. If solution stops circulating and the green light goes out, immediately turn off and unplug unit. Allow unit to cool and add more cleaning fluid.

CAUTION

- **Failure to keep proper liquid level will result in burning out the pump and heater coil, creating a potential fire hazard.**

CAUTION

- When finished, turn pump off to minimize liquid loss due to evaporation.

USING SINK AS SOAK TANK

- To use unit as a soak tank, position the plastic stopper in the center drain. Do not remove the flexible rubber strainer. It is best if parts to be cleaned are placed in sink before filling.
- Turn on pump to begin fluid flow. Leave pump running and fluid flowing through either the flow-thru brush or flexible hose. The fluid will drain back into the base when the liquid level reaches the drainage holes in the sink. This continuous flow refreshes the soaking fluid with filtered and heated solution and supplies gentle agitation.

CAUTION

Position hose so fluid does not splash out of sink or toward operator.

Make sure that drainage holes in sink are not obstructed.

- Drainage holes will allow cleaning fluid to circulate back to base of unit to be reheated and filtered. If they become obstructed, turn off pump and clear obstruction before continuing.
- To return all fluid to base, remove stopper.
- When sink is fully emptied, clean rubber strainer of any debris. Return to center drain before continuing to use unit.

MAINTENANCE

Daily

CAUTION

Be sure electrical cord is unplugged and cleaning solution and heater coil is cool before performing any maintenance.

- Remove rubber strainer and dispose of solid waste accumulation.
- While strainer is out, check fluid level. Fluid should be within 2" of bottom of sink. Due to evaporation and drag-out, fluid may need to be topped off frequently.

Monthly or as needed

- Inspect heating coil for accumulation of contaminants. The sink must be moved off the tank for access of the heating coil.

CAUTION

Deposits and build up can cause premature failure of the heating coil.

TANK ACCESS

- Unit must be disassembled carefully for access to the heater and liquid level float.
- If optional light was purchased with unit, detach from filter assembly before beginning.
- Start by detaching the hose clamps on filter or 3-way valve. If sink will be removed completely, also detach hose clamps leading to the filter cartridge.

CAUTION

There may be cleaning fluid remaining in hoses even when unit has stopped operation. When detaching, drain liquid into sink or other container to avoid spills.

- Remove sink by lifting straight up from base. Angle onto base for access below, or remove completely.

CAUTION

It is recommended that two people lift the sink.

Sink will have condensation on bottom; place on protected area and make sure that cleaning fluid is not allowed to cover floor or painted surface that could be damaged or become a safety hazard.

- Pump or dump out cleaning fluid if cleaning tank. Save fluid or dispose responsibly.
- Check float switch for ease of movement. If not working properly, contact Graymills.

CAUTION

Care must be taken when control assembly is removed from reservoir.

- Pull up the heater coil; clean with wire brush if deposits are found.

Semi-Annual Maintenance

CAUTION

Be sure electrical cord is unplugged and cleaning solution and heater coil is cool before performing any maintenance.

Graymills recommends that the entire system be inspected and cleaned semi-annually. After operating this unit, you may find that your use may require more or less frequent maintenance.

FILTER CARTRIDGE REPLACEMENT

- Filter cartridge will require periodic replacement depending on the volume and types of soils involved. A significant reduction in the flow through the flexible hose signals the need to replace the cartridge
- Clean filter cartridge assembly:
 1. Unscrew filter cartridge bowl.
 2. Pour liquid from filter bowl into reservoir.
 3. Remove filter cartridge and dispose of in proper manner.
 4. Remove clear plastic packaging from filter cartridge. Remove and discard cartridge from hollow center of cartridge.
 5. Install new filter cartridge in the cartridge bowl.
 6. Re-attach filter cartridge bowl to filter body.

TANK CLEANING

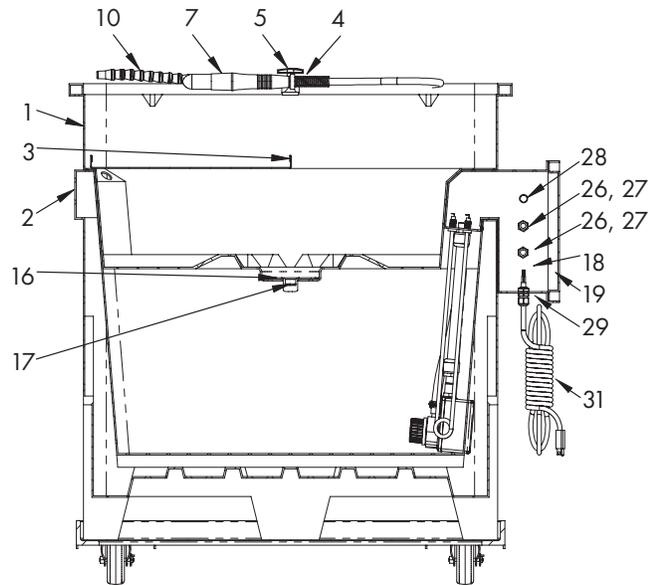
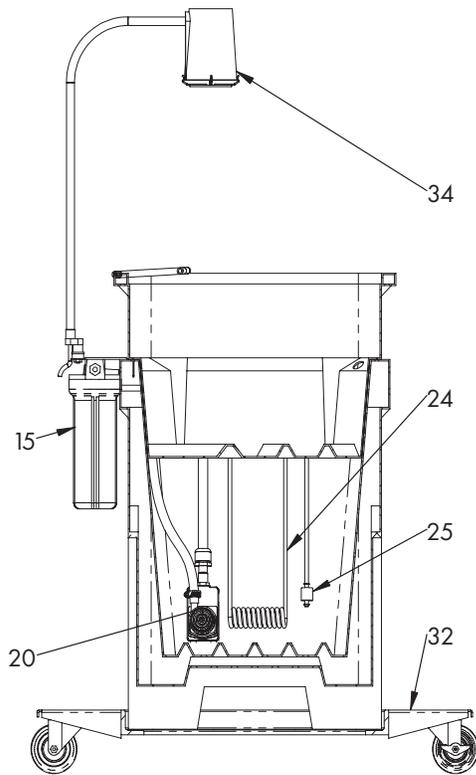
- Follow instructions on page 3 for TANK ACCESS.
- Empty tank completely, retaining fluid in drum if you determine that it can be reused. Dispose of according to local regulations if needed.
- Tip tank and clean out debris on bottom of tank. Rinse out if desired, making sure to treat rinse according to local regulations.
- Reassemble tank, control box, filter assembly and sink, and fill according to initial FILLING TANK instructions on page 3.

TROUBLESHOOTING

Problem	Probable Cause	Suggested Remedy
No Machine Function	Machine unplugged	Plug machine into appropriate wall socket
	GFCI tripped	Press RESET button on GFCI
	No power at outlet	Consult plant electrician
Heat Not Working	Heater malfunction	Contact Graymills for more information 1-888-472-9645
	Heater coil dirty	Clean heater coil (see MAINTENANCE, pages 3 and 4)
Little or No Fluid Flow	Valve shut off	Turn valve fully to the left or right to open valve
	Clogged filter	Replace filter cartridge
	Cracked or broken hose	Inspect and replace hose (See parts list)

If your problem is not listed above or problems persist, please contact Graymills for further assistance. 1-888-472-9645

PARTS LIST



No.	Part No.	Description
1	727-93000S	Sink
2	727-93000	Base/Reservoir
3	645-42838-81	Work Shelf
4	663-42828-81	Valve Bracket
5	738-90795	3-Way Valve
7	749-09925	Flow-Thru Brush & Hose
10	728-90951	Lock-Line Modular Hose
15	742-90186	Filter
	742-09335-1	Filter Cartridge
16	742-93080	Flexible Rubber Strainer
17	742-93081	Plastic Drain Stopper
18	457-42799-A	Electrical Box Assembly
19	727-93000C	Electrical Box Cover

No.	Part No.	Description
20	390-09663	Pump
24	771-93004	Heater
25	770-93005-81	Float Switch
26	770-92124	Switch
27	770-08481	Rubber Switch Cover
28	772-92079	Indicator Light - Green
29	770-92011	Reset Switch
31	778-93111	8' Power Cord (115V w/Integral GFCI)

780-93083-81 - Thermostat

OPTIONS

32	CST-9	Caster Cart
34	AL-9	Work Light

GRAYMILLS RECOMMENDED CLEANING FLUIDS

Graymills offers cleaning fluids for most of the cleaning problems found in plants and maintenance shops. Any of the following products work well in the PH922 unit:

Aquatene™ GM330 Concentrate is a light duty, general purpose water-based detergent in liquid form. Mix 5:1 up to 10:1 with tap water.

Super Aquatene™ GM360 Concentrate is a heavy duty, general purpose water-based detergent in liquid form. Mix 5:1 up to 10:1 with tap water.

Aquatene™ 571 GM571 Powder, specially formulated for cleaning aluminum and non-ferrous metals. The powdered compound mixes @ 3 to 8 ounces per gallon of water.

Turbo Biotene™ GM880 Concentrate. Although developed for bioremediation, this cleaning fluid is an excellent general purpose cleaner. This concentrate mixes with regular tap water at a ratio of 7:1.

Inkitene™ II, GM885 Concentrate is cleaning fluid selected for removing inks, coatings and varnishes from most metals, including aluminum and aluminum alloys. Concentrate to be mixed 8:1 to 20:1 with tap water.

WARRANTY

Graymills Corporation warrants that the equipment manufactured and delivered hereunder, when properly installed and maintained, shall be free from defects in workmanship and will function as quoted in the published specification. **Graymills** does not warrant process performance nor does Graymills assume liability for equipment selection, adaption or installation.

This warranty does not apply to damages or defects caused by operator carelessness, misuse, abuse, improper application, or abnormal use; the use of add-on parts or equipment which damages or impairs the proper function of the unit and modifications made by Buyer.

Graymills' obligation under this Warranty shall be limited to:

- Replacing or repairing (at **Graymills'** sole discretion) any non-conforming or defective parts manufactured by **Graymills** within one year from the date of shipment to customer.
- Replacing or repairing (at **Graymills'** sole discretion) thermoplastic parts cleaner tanks or lids that have cracked or split under normal use within five (5) years from date of shipment.
- Replacing or repairing components supplied but not manufactured by **Graymills** to the extent of the warranty given by the original manufacturer.

Buyer must give **Graymills** prompt notice of any defect or failure and satisfactory proof thereof.

This warranty does not apply to expendable parts which need periodic replacement due to normal wear.

This warranty does not apply to rusting of mild steel components or tanks in product used with aqueous (water based) fluids.

A new warranty period shall not be established for repaired or replaced materials or products. Such items shall remain under warranty for only the remainder of the warranty period of the original materials or products.

If you believe you have a warranty claim, contact **Graymills** Customer Service at 773-248-6825 for a Return Merchandise Authorization number. Any returned material must have its RMA number on the outside of the package and be shipped prepaid or the shipment will be refused. **Graymills** will promptly examine the material and determine if it is defective and within the warranty period.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY. IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY SHALL NOT APPLY. **Graymills'** warranty obligations and Buyer's remedies thereunder (except as to title) are solely and exclusively as stated herein. In no case will **Graymills** be liable for consequential damages, loss of production or any other loss incurred because of interruption of service.



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